Breadth Subjects
Pink colour indicates, no seats are available (only for breadth subject).

Guidelines for choosing Breadth Elective:

Criteria for choosing breadth electives:
Students in the New Curricula can choose any subject from the parent department, other than Departmental Core (Depth Core) and Departmental Elective (Depth Elective) or from any other department, subject to satisfying the level criteria and pre-requisite criteria.

Level Criteria:
Students at 2nd year cannot take 600 level subjects, i.e., the subjects starting with 6 number (e.g.,CS60001 etc.), except those offered by Rekhi Centre of Excellence in Science of Happiness and Humanities and Social Sciences.

Pre-requisite Criteria:
As prescribed by the subject teachers for a specific subject, if any At present on ERP-Academic->Subjects->Breadth List for Current Semester: displays few subjects. However, a student can select any other subject in addition to those listed under Breadth List as per the criteria mentioned above. Note: For some of the subjects,there may be a constraint in terms of maximum intake.

Subject No	Subject Name	L-T-P	Pre-requisite 1	Pre-requisite 2	Pre-requisite 3	Offered By	Slot	Room
	Management							
EP60007	TECHNO-ENTREPRENEURIAL LEADERSHIP	3-0-0				RJ	{D3}	NC321
EP60021	ENGINEERING B-PLAN DEVELOPMENT - 1	2-1-0				RJ	{F3}	NC441
EP60025	SPECIAL TOPICS IN ENTREPRENEURSHIP	2-1-0				RJ	{B3}	NR311
EP60029	SMALL BUSINESS DEVELOPMENT	2-0-1				RJ	{G3}	NC142
EP60038	ENTREPRENEURSHIP IN SOCIAL SECTOR	2-1-0				RJ	{E3}	NR213
EP60044	FRUGAL ENGINEERING	3-0-0				RJ	{E3}	NC341
EP60201	DIGITAL ENTREPRENEURSHIP	3-0-0				RJ	{G3}	NR421
EP61201	ENTREPRENEURSHIP ESSENTIALS	3-1-0				RJ	{S3,B3}	NR122
EP61203	FINANCIAL AND LEGAL ASPECTS OF NEW TECHNOLOGY VENTURES	3-1-0				RJ	{D4}	NR323
EP61205	INNOVATION IN PRODUCT DEVELOPMENT PROCESS	3-1-0				RJ	{F4}	NR424
IM60213	PRINCIPLES OF SAFETY ENGINEERING	3-0-0				IM	{G3}	208 (E1)
IM61003	HUMAN FACTORS ENGINEERING	3-1-0				IM	{V4}	208 (E1)
IM61207	APPLIED MULTIVARIATE STATISTICAL MODELLING	3-1-0				IM	{D4}	215 (C3)
	HSS							
HS20002	GENERAL PSYCHOLOGY	3-1-0				HS	{E4}	NR412
HS20004	POSITIVE PSYCHOLOGY	3-1-0				HS	{E4}	NR121
HS20016	ENVIRONMENTAL HUMANITIES	3-0-0				HS	{B3}	NC314
HS30036	INTERCULTURAL COMMUNICATION	3-1-0				HS	{C4}	
HS30050	SOCIO-TECHNICAL INTERVENTIONS FOR AGEING SOCIETIES	3-0-0				HS	{B3}	
HS30054	SOCIOLOGY OF RESOURCE MANAGEMENT	3-0-0				HS	{G3}	NC312
HS30071	APPLIED ORGANISATIONAL PSYCHOLOGY	3-0-0				HS	{G3}	
HS30074	SCIENCE AND HUMANISM	3-0-0				HS	{G3}	NC313
HS30075	MODERNISATION AND CREATIVE COMMUNICATION	3-0-0				HS	{G3}	
HS30209	CONTEMPORARY WORLD POETRY	3-0-0				HS	{G3}	
HS31076	INTRODUCTION TO LANGUAGE AND LINGUISTICS	3-1-0				HS	{S3,B3}	
HS40072	SOCIOLOGY OF SCIENCE	3-0-0				HS	{G3}	NR113
HS51604	GERMAN	3-0-0				HS	{B3}	
HS60005	INTRODUCTION TO INDIAN PSYCHOLOGY	3-0-0				HS	{G3}	NC334
HS61080	TOOLS AND TECHNOLOGIES FOR LANGUAGE DOCUMENTATION	3-1-0				HS	{S3,G3}	
KS10001	UNDERSTANDING INDIA: INDIAN ETHOS AND KNOWLEDGE SYSTEM - I	2-0-0				KS	{B2}	NR114
KS11001	SANSKRIT	3-1-0				KS	{A3,S3}	NR114
KS32201	THE ESSENCE OF THE UPANISHADS	2-0-2				KS	{C4}	V4
KS60206	THE GNOSTIC FOUNDATIONS OF YOGA: THEORIES AND APPLICATIONS	3-0-0				KS	{F3}	V3
	Breadth							
AI60007	GRAPH MACHINE LEARNING: FOUNDATIONS AND APPLICATIONS	3-0-0	AI61002	CS60010		AI	{G3}	NR213
AI60205	INTERPRETABLE MACHINE LEARNING	3-0-0				AI	{C3}	NR213
AI60209	AI/ML FOR ROBOT AUTONOMY	4-0-0				AI	{V4}	NR213
AI61003	LINEAR ALGEBRA FOR AI AND ML	3-1-0	MA10001	MA10002		AI	{F4}	NR123
AI61004	STATISTICAL FOUNDATION FOR ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	3-1-0	AI42001	CS60050		AI	{D4}	NC434
AI61005	ARTIFICIAL INTELLIGENCE: FOUNDATIONS AND APPLICATIONS	3-1-0				AI	{A3,S3}	NR121
AI61201	VISUAL COMPUTING WITH AI/ML	3-1-0				AI	{E4}	NR313
AT30001	FUNDAMENTALS OF EMBEDDED CONTROL AND SOFTWARE	3-0-0				AT	{S3}	NC141
AT60001	EMBEDDED CONTROL SYSTEMS	4-0-0				AT	{C4}	NC424
AT60003	EMBEDDED SOFTWARE DESIGN & VALIDATION	4-0-0				AT	{E4}	NC423
AT60005	EMBEDDED MACHINE LEARNING	3-0-0				AT	{U3}	NC241
AT60201	PRINCIPLES OF AUTOMOTIVE DYNAMICS AND CONTROL	3-0-0				AT	{D3}	NC244
AT60203	EMBEDDED CONTROL OF ELECTRICAL DRIVES: DESIGN AND IMPLEMENTATION	3-0-0				AT	{H3}	NC142
AT60205	PHOTONIC QUANTUM INFORMATION TECHNOLOGIES	3-0-0				AT	{S3}	NC424
AT62001	INTRODUCTION TO AUGMENTED REALITY AND VIRTUAL REALITY	2-0-2				AT	{D4}	NR214
CH61011	ADVANCED FLUID DYNAMICS	3-1-0				CH	{E4}	NR222
CH61015	ADVANCED MATHEMATICAL TECHNIQUES IN CHEMICAL ENGINEERING	3-1-0	MA20101	MA20102		CH	{C4}	V1
CH61017	RHEOLOGY OF COMPLEX FLUIDS	3-1-0				CH	{S3,B3}	NC422
CH62001	OPTIMIZATION TECHNIQUES IN PROCESS DESIGN	3-1-0				CH	{D4}	
CH62007	INDUSTRIAL POLLUTION CONTROL	3-0-0				CH	{B3}	NC421
CH62009	PETROLEUM REFINERY ENGINEERING	3-0-0				CH	{D3}	NC224
CH62010	PETROCHEMICAL TECHNOLOGY	3-0-0				CH	{D3}	NC311
CH62021	MULTIPHASE FLOW	3-1-0				CH	{F4}	NC324
CH62046	MANUFACTURING & CHARACTERISATION OF POLYMER MATRIX COMPOSITES	3-1-0				CH	{F4}	NC112
CH62047	CFD APPLICATIONS IN CHEMICAL PROCESSING	3-1-0				CH	{F4}	NC422
CH62049	MICROSCALE TRANSPORT PROCESSES	3-0-0				CH	{D3}	NR124
CH71002	COMPUTATIONAL MODELING OF MULTIPHASE REACTIVE FLOWS	3-1-0				CH	{B3,S3}	NC324
CL60019	CARBON CYCLE AND GLOBAL CLIMATE CHANGE	3-0-0				CL	{A3}	Class Room-2 (704)
CL60201	PHYSICAL OCEANOGRAPHY AND CLIMATE	3-0-0				CL	{A3}	Class Room-3 (705)
CL60203	AGRICULTURAL METEOROLOGY	3-0-0				CL	{B3}	Class Room-2 (704)
CL60205	TECTONICS AND FLUVIAL DYNAMICS	3-0-0				CL	{D3}	Class Room-3 (705)
CL60207	WEATHER ANALYSIS & PREDICTION	3-0-0				CL	{B3}	Class Room-3 (705)
CL60209	DYNAMICS OF PLANETARY AND MARINE BOUNDARY LAYER	3-0-0				CL	{E3}	Class Room-2 (704)
CL61015	MODELING OF EXTREME EVENTS	3-1-0				CL	{U4}	Class Room-3 (705)
CL61201	ATMOSPHERIC DYNAMICS	3-1-0				CL	{D4}	Class Room-2 (704)
CL61203	COMPUTATIONAL METHODS FOR EARTH SYSTEM SCIENCE	3-1-0				CL	{F4}	Class Room-3 (705)

Code	Title	L-T-P	Prereq1	Prereq2	Dept	Slot	Room
CL61205	GEOPHYSICAL FLUID DYNAMICS	3-1-0			CL	{C4}	Class Room-2 (704)
CR61001	INTRODUCTION TO CRYOGENICS AND SUPERCONDUCTIVITY	3-1-0			CR	{D4}	CRYO-201
CR61003	CRYOGENIC LIQUEFACTION SYSTEMS AND CRYOCOOLERS	3-1-0			CR	{C4}	CRYO-201
CR61013	STORAGE AND TRANSFER OF CRYOGENS	3-0-0			CR	{U3}	CRYO-201
CR61017	CRYOGENIC HEAT TRANSFER DEVICES	3-0-0			CR	{A3}	CRYO-201
CR61019	VACUUM TECHNOLOGY	3-0-0			CR	{B3}	CRYO-201
CR61021	MATTER AT LOW TEMPERATURES	3-0-0			CR	{E3}	CRYO-201
CR61023	SAFETY ISSUES WITH CRYOGENIC FLUIDS	2-0-0			CR	{V2}	CRYO-201
CR61025	SUPERCONDUCTING MAGNETS DESIGN AND APPLICATION	3-0-0			CR	{H3}	CRYO-201
CY61203	BIOLOGICAL INORGANIC CHEMISTRY	3-1-0			CY	{S3,H3}	NC112
CY61205	ELECTROCHEMICAL SENSORS AND BIOSENSORS	3-1-0			CY	{A3}	
CY61217	BIOPHYSICAL CHEMISTRY	3-1-0			CY	{U4}	NC112
CY61227	ADVANCED QUANTUM CHEMISTRY	3-1-0	CY41009	PH21212	CY	{C4}	NC422
EP21201	INTRODUCTION TO INNOVATION AND ENTREPRENEURSHIP	2-1-0			RJ	{H3}	NC342
ET60007	INTRODUCTION TO DIGITAL SPEECH PROCESSING	3-1-0			AT	{F4}	NR211
FH62201	EMBEDDED SYSTEM DESIGN FOR AFFORDABLE HEALTHCARE	2-0-2			FH	--	
MA11005	LINEAR ALGEBRA	3-1-0			MA	{D4}	NC121
MA30227	OPTIMIZATION TECHNIQUES	3-0-0			MA	{C3}	V3
MA60213	CONVEX OPTIMIZATION	3-0-0			MA	{F3}	
MA60225	FINANCIAL MATHEMATICS	3-0-0			MA	{H3}	NR324
MA60229	GALOIS THEORY	3-0-0			MA	{V3}	NC313
MA60251	NUMBER THEORY	3-0-0			MA	{E3}	NC222
MA60261	CRYPTOGRAPHY AND NETWORK SECURITY	3-0-0			MA	{B3}	NR124
MA60263	MULTIVARIATE STATISTICAL METHODS	3-0-0			MA	{C3}	
MA60269	OPTIMIZATION METHODS IN FINANCE	3-0-0			MA	{F3}	NC121
MA60275	ADVANCED FLUID DYNAMICS	3-0-0			MA	{U3}	NC311
MA60279	MODERN THEORY OF PARTIAL DIFFERENTIAL EQUATIONS	3-0-0			MA	{G3}	NR323
MA61024	COMPUTATIONAL GEOMETRY	3-1-0			MA	{F4}	
MA61061	OPTIMIZATION METHODS IN FINANCE	3-0-0			MA	{F3}	NC121
MA71003	GALOIS THEORY	3-1-0			MA	{V4}	NC313
MI60041	RISK AND RELIABILITY ENGINEERING	3-0-0			MI	{G3}	
MI60209	ROCK FRACTURE MECHANICS	3-0-0	MI21201	CE21201	MI	{E3}	
MI60217	ENVIRONMENTAL ENGINEERING	3-0-0			MI	{E3}	
MI60227	APPLIED AI, ML & DL TECHNIQUES	3-0-0			MI	{S3}	
MI60236	RISK AND RELIABILITY ENGINEERING	3-0-0			MI	{G3}	
MI60239	BULK MATERIAL HANDLING	3-0-0			MI	{C3}	NC443
MS31007	MATERIAL SCIENCE	3-0-0			MS	{F3}	NC322
MS60009	FUNDAMENTALS OF ELECTRONIC MATERIALS	3-0-0			MS	{H3}	Seminar Room 1
NT61201	FUNDAMENTALS AND PROPERTIES OF NANOCLUSTERS	3-1-0			NT	{V4}	
PE40001	PETROLEUM ENGINEERING FUNDAMENTALS	3-0-0			DE	{D3}	
PE60001	DRILLING AND HYDROFRACKING TECHNOLOGY	3-0-0			DE	{H3}	
PE60003	RESERVOIR SIMULATION	3-0-0			DE	{U3}	
PE60008	ENHANCED OIL RECOVERY	3-0-0			DE	{S3}	
PE60009	CARBON GEO-STORAGE AND MONITORING	3-0-0			DE	{V3}	
PH30223	SEMICONDUCTOR PHYSICS	3-0-0			PH	{F3}	NC321
PH58035	PHYSICS OF SEMICONDUCTOR DEVICES	3-0-0			PH	{F3}	NC314
PH60042	ADVANCED CONDENSED MATTER PHYSICS	3-1-0			PH	{F4}	
PH60206	PHYSICS OF BIOMACROMOLECULES	3-0-0			PH	{G3}	
RD30005	FUNDAMENTALS OF RURAL INNOVATION AND MANAGEMENT	3-0-0			RD	--	
RD61003	FINANCIAL TECHNOLOGY FOR RURAL AND AGRIBUSINESS DEVELOPMENT	3-1-0			RD	--	
RT30019	SCI AND TECH. RUBBER & RUBBER LIKE MATERIALS	3-0-0			RT	{U3}	